

# **United States Port Development Expenditure Report**

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## INTRODUCTION

This report is the tenth in a series of reports that continues the capital expenditure survey first begun by the Port Authority of New York and New Jersey in 1956. Subsequent reports were published by the American Association of Port Authorities (AAPA) and currently by the U.S. Maritime Administration (MARAD).

In 1991, MARAD published the United States Port Development Expenditure Report, which summarized the findings of the earlier expenditure efforts as well as several AAPA capital expenditure surveys. That report provided a 44-year history of the expenditure pattern of the U.S. public port industry from 1946 through 1989. Since that report, MARAD has produced annual reports covering the industry's current and proposed capital expenditures.

This report analyzes the results of the AAPA capital expenditure survey for 1999. The survey included the capital expenditures for 1999 and proposed expenditures for the period 2000 through 2004 along with the funding sources used to finance these expenditures. The survey data were obtained by AAPA from its corporate membership.

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This report is available on MARAD's website - <http://www.marad.dot.gov>.

## CAPITAL EXPENDITURES FOR U.S. PUBLIC PORT DEVELOPMENT

From 1946 through 1999, the U.S. public port industry has invested approximately \$21 billion in capital improvements to its port facilities and related infrastructure. The investments made over the past five years account for nearly one-third of the historical expenditures. These investments cover expenditures for the construction of new facilities and the modernization and rehabilitation of existing ones. Table 1 summarizes the historical expenditures by coastal region. During this 54-year period, the South Pacific region captured 30.6 percent of the expenditures. Other regions with substantial investments include the Gulf (18.1%), North Atlantic (17.4%), South Atlantic (14.6%) and the North Pacific (11.8%).

**Table 1**  
**U.S. Port Capital Expenditures for 1946 - 1999**  
 (Thousands of Dollars)

Region	Expenditures	Percent
North Atlantic	\$3,641,209	17.4%
South Atlantic	3,047,538	14.6%
Gulf	3,771,562	18.1%
South Pacific	6,392,473	30.6%
North Pacific	2,463,461	11.8%
Great Lakes	561,179	2.7%
AK, HI, PR, and VI*	820,575	3.9%
Guam, Saipan	193,039	0.9%
<b>Total</b>	\$20,891,036	100.0%

\* Alaska, Hawaii, Puerto Rico, & Virgin Islands

### CAPITAL EXPENDITURES - 1999

This section analyzes the U.S. public port expenditures for 1999. The public port industry's annual capital expenditures exceeded the one billion-dollar mark for the fifth consecutive year. While the 1999 total of \$1.1 billion was the lowest in several years, it should be noted that the number of survey respondents was down from previous years. For the past five years, the public port industry averaged \$1.35 billion in capital improvements. This continued high level of investment highlights the public port industry's efforts to meet the nation's growing waterborne transportation needs through improvements to their marine terminal facilities and related land and waterside connections. Appendix A contains a list of the 52 ports that provided information on their 1999 capital expenditures. Of those responding, 46 ports provided expenditure data and 6 ports showed no expenditures.

Table 2 shows the annual expenditures from 1995 to 1999 broken down by region. For 1999, the South Pacific continues as the leading region with \$454.6 million (40.7%). Compared to 1998, the relative share rose while the dollar value remained constant. The Gulf region expenditures

accounted for \$265 million (23.8%) - a sharp increase in both share and dollar volume. Other regions with significant levels of expenditures include the South Atlantic with \$245.6 million (22.0%) and the North Pacific with \$95.1 million (8.5%). Since 1994, the Pacific regions have combined for more than 50 percent of the annual investments with the majority in the South Pacific region. This high level of investment reflects the fact that the U.S. trade with the Far East continues to be one of the largest and fastest growing. Traffic growth is outpacing cargo forecasts causing many ports to accelerate the implementation of their development plans. As an example, the Ports of Long Beach and Los Angeles are continuing to experience double-digit growth in container traffic.

**Table 2**  
**U.S. Port Capital Expenditures for 1995-1999**  
(Thousands of Dollars)

Region	1995		1996		1997		1998		1999	
	Expenditure	Pct.								
North Atlantic	\$60,948	4.3%	\$96,357	7.4%	\$95,151	6.2%	\$126,486	8.9%	\$50,893	4.6%
South Atlantic	172,517	12.3%	140,944	10.8%	212,721	13.8%	306,620	21.7%	245,634	22.0%
Gulf	158,977	11.3%	134,311	10.3%	233,462	15.1%	193,101	13.7%	265,054	23.8%
South Pacific	673,497	48.1%	642,941	49.5%	683,749	44.3%	457,309	32.3%	454,614	40.7%
North Pacific	143,910	10.2%	241,254	18.5%	231,937	15.0%	244,612	17.3%	95,160	8.5%
Great Lakes	1,970	0.1%	245	-	10,792	0.7%	28,871	2.0%	4,325	0.4%
AK, HI, PR, & V.I.*	192,536	13.7%	45,100	3.5%	25,529	1.7%	50,306	3.6%	-	-
Guam, Saipan	-	-	-	-	49,113	3.2%	7,092	0.5%	-	-
<b>Total</b>	<b>\$1,404,355</b>	<b>100.0%</b>	<b>\$1,301,152</b>	<b>100.0%</b>	<b>\$1,542,454</b>	<b>100.0%</b>	<b>\$1,414,397</b>	<b>100.0%</b>	<b>\$1,115,680</b>	<b>100.0%</b>

\* Alaska, Hawaii, Puerto Rico, & Virgin Islands

### Capital Expenditures - by Facility Type

Table 3 provides a break down of capital expenditures by type of facility. Each of the five cargo type categories includes expenditures for pier or wharf structures, storage facilities, and handling equipment. Infrastructure expenditures cover improvements, such as roadways, rail, and utilities that are located on or off terminal property. Dredging consists of local port expenditures associated with the dredging--deepening and/or maintenance--of Federal and non-Federal channels and berths as well as the local costs for land, easements, rights-of-way, and disposal areas. The "other" category includes those structures and fixtures not directly related to the movement of cargo, such as maintenance and administrative facilities.

As shown in Table 3, specialized general cargo facilities continued to be the leading expenditure category. This category accounted for \$436.7 million (39.2%) of 1999 investments. This represents an increase in the relative share but \$70 million decline in dollar value compared to the 1998 figures. The South Pacific region accounted for \$273.1 million (62.5%) of these expenditures followed by the South Atlantic region with \$98.2 million (22.5%) and the North Pacific with \$40.9 million (9.4%).

General cargo investment was the second leading cargo category with \$127.8 million (11.5%) of the total expenditures, which is virtually unchanged in terms of share but a 17 percent drop in dollar value from 1998. The Gulf region accounted for 78.6 percent general cargo expenditures followed

by the North Pacific region with 8.6 percent and the South Atlantic with 7.4 percent. The passenger segment rose from 1.9 percent to 6.4 percent with the South Atlantic region totaling 84.7 percent of these expenditures followed by the Gulf with 12.2 percent. Bulk facilities, dry and liquid, represent 5.2 percent and 1.4 percent of the 1999 expenditures. The Gulf region accounted for the majority (57.5%) of the dry bulk expenditures with the South Atlantic region totaling 33.1 percent. The same two regions accounted for nearly all of the liquid bulk expenditures - South Atlantic with 73.1 percent and the Gulf with 25.6 percent. "Other" expenditures, which declined from 15.7 percent to 9.0 percent, were divided among three regions - Gulf (35.5%), South Atlantic (32.8%), and the North Pacific (20%).

**Table 3**  
**U.S. Port Capital Expenditures by Type of Facility for 1999**  
(Thousands of Dollars)

Region	Type of Facility									Total
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	
							On-Terminal	Off-Terminal		
North Atlantic	\$5,155	\$6,534	-		\$345	\$310	\$17,089	\$9,058	\$12,402	\$50,893
South Atlantic	9,526	98,213	19,183	18	60,815	33,138	14,140	1,728	8,873	245,634
Gulf	100,457	17,939	33,283	11,795	8,879	35,826	13,199	6,356	37,320	265,054
South Pacific	221	273,103	2,190	4,111	1,386	9,784	43,697	70,968	49,154	454,614
North Pacific	11,061	40,961	2,845	1	267	20,271	9,713	8,163	1,878	95,160
Great Lakes	1,444	-	200	149	132	1,500	200	-	700	4,325
<b>Total</b>	<b>\$127,864</b>	<b>\$436,750</b>	<b>\$57,701</b>	<b>\$16,074</b>	<b>\$71,824</b>	<b>\$100,829</b>	<b>\$98,038</b>	<b>\$96,273</b>	<b>\$110,327</b>	<b>\$1,115,680</b>
<b>Percent by Facility Type</b>	<b>11.5%</b>	<b>39.2%</b>	<b>5.2%</b>	<b>1.4%</b>	<b>6.4%</b>	<b>9.0%</b>	<b>8.8%</b>	<b>8.6%</b>	<b>9.9%</b>	<b>100.0%</b>

\* Alaska, Hawaii, Puerto Rico, & Virgin Islands

Port infrastructure improvements are the second largest category overall with 17.4 percent of the 1999 expenditures. These expenditures were equally divided between on and off-terminal investments. The South Pacific region accounted for 44.5 percent of the on-terminal expenditures followed by the North Atlantic region with 17.3 percent, South Atlantic with 14.4 percent, and the Gulf with 13.4 percent. For off-terminal improvements, the South Pacific investments accounted for 73.7 percent of the total. Dredging expenditures accounted for 9.9 percent of the total with activity centered in the South Pacific and Gulf regions with 44.5 percent and 33.8 percent of the expenditures.

Table 4 provides a more detailed examination of the public port industry's infrastructure investments. The table breaks down the on and off terminal infrastructure investments into four sub-categories--roadways, rail, utilities, and other.

**Table 4**  
**U.S. Port Capital Infrastructure Expenditures for 1999**  
(Thousands of Dollars)

Region	On-Terminal				Off-Terminal				Total
	Road	Rail	Utilities	Other	Road	Rail	Utilities	Other	
North Atlantic	\$807	\$35	\$4,588	\$11,659	\$2,248	\$1,326	\$250	\$5,234	\$26,147
South Atlantic	5,591	111	509	7,929	1,121	-	392	215	15,868
Gulf	2,562	8,637	789	1,211	794	4,688	-	874	19,555
South Pacific	20,117	15,397	3,858	4,325	70,831	-	-	137	114,665
North Pacific	402	5,000	94	4,217	1,164	5,018	486	1,495	17,876
Great Lakes	200	-	-	-	-	-	-	-	200
<b>Total</b>	<b>\$29,679</b>	<b>\$29,180</b>	<b>\$9,838</b>	<b>\$29,341</b>	<b>\$76,158</b>	<b>\$11,032</b>	<b>\$1,128</b>	<b>\$7,955</b>	<b>\$194,311</b>
	30.3%	29.8%	10.0%	29.9%	79.1%	11.5%	1.1%	8.3%	

\* Alaska, Hawaii, Puerto Rico, & Virgin Islands

### Capital Expenditures - New Construction vs. Modernization\Rehabilitation

Table 5 summarizes the public port expenditures by type of expenditure--new construction and modernization/rehabilitation (M&R)--and by type of facility. For 1999, expenditures for new construction accounted for two-thirds of the total expenditures. Among the five cargo type categories, specialized general cargo facilities represented 51.8 percent of the new construction expenditures--up from 44.8 percent in 1998. The balance of the new construction expenditures was distributed primarily among the following categories - dredging (12.1%), other (11.4%), and general cargo (10.2%). The South Pacific region remained as the leader in new construction expenditures with \$355.3 million (47.8%) followed by the Gulf region at \$192.9 million (25.9%) and the South Atlantic region at \$134.6 million (18.1%).

Within the specialized general cargo category, the South Pacific region accounted for \$256.6 million (66.7%) followed by the South Atlantic region with \$76 million (19.7%). The majority of the dredging activity was divided between the South Pacific (54.5%) and Gulf (34.0%) regions. The Gulf region continued as the center of general cargo investments with \$65.2 million (86.2%) followed by the South Atlantic region with \$7.4 million (9.8%). The South Pacific led the total infrastructure expenditures with \$40.1 million (65.5%) followed by the Gulf with \$14.3 million (23.4%). For bulk investments, the Gulf and South Atlantic regions captured 97.9 percent of the dry bulk with the Gulf accounting for virtually all of the liquid bulk expenditures. The Gulf region was the focus of the passenger facility investments with \$8.2 million (74.5%).

**Table 5**  
**U.S. Port Capital Expenditures by Type of Expenditure and Facility for 1999**  
(Thousands of Dollars)<sup>1</sup>

<sup>1</sup> Excludes \$14,008,000 in expenditures that were not broken down by type of construction.

Region	New Construction									
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	Total
							On-Terminal	Off-Terminal		
North Atlantic	\$2,088	\$4,152	-	-	\$355	\$310	\$111	\$190	\$114	\$7,320
South Atlantic	7,445	76,078	\$11,320	-	2,110	25,885	2,220	1,318	8,280	134,656
Gulf	65,206	16,581	12,270	\$11,646	8,216	34,054	9,559	4,804	30,616	192,952
South Pacific	207	256,647	299	-	191	8,778	40,009	137	49,096	355,364
North Pacific	337	31,384	74	1	-	14,745	1,540	1,182	1,878	51,141
Great Lakes	400	-	50	-	132	1,000	200	-	-	1,782
<b>Total</b>	<b>\$75,683</b>	<b>\$384,842</b>	<b>\$24,013</b>	<b>\$11,647</b>	<b>\$11,004</b>	<b>\$84,772</b>	<b>\$53,639</b>	<b>\$7,631</b>	<b>\$89,984</b>	<b>\$743,215</b>
<b>Percent by Facility Type</b>	10.2%	51.8%	3.2%	1.6%	1.5%	11.4%	7.2%	1.0%	12.1%	

Region	Modernization/Rehabilitation									
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	Total
							On-Terminal	Off-Terminal		
North Atlantic	\$3,067	\$2,382	-	-	(\$10)	-	\$16,978	\$8,868	\$12,288	\$43,573
South Atlantic	2,081	22,135	\$7,863	\$18	58,705	\$7,253	11,920	410	593	110,978
Gulf	35,251	1,358	21,013	149	663	1,772	3,640	1,552	6,704	72,102
South Pacific	14	16,456	1,891	4,111	1,195	1,006	3,688	70,831	58	99,250
North Pacific	10,724	9,577	2,771	-	267	5,526	660	486	-	30,011
Great Lakes	1,044	-	150	149	-	500	-	-	700	2,543
<b>Total</b>	<b>\$52,181</b>	<b>\$51,908</b>	<b>\$33,688</b>	<b>\$4,427</b>	<b>\$60,820</b>	<b>\$16,057</b>	<b>\$36,886</b>	<b>\$82,147</b>	<b>\$20,343</b>	<b>\$358,457</b>
<b>Percent by Facility Type</b>	14.6%	14.5%	9.4%	1.2%	17.0%	4.5%	10.3%	22.8%	5.7%	

\* Alaska, Hawaii, Puerto Rico, and Virgin Islands

For M&R expenditures, infrastructure expenditures remained as the leading category with \$119 million (33.1%) of the \$358.4 million invested in M&R. Passenger facilities were the second leading category with \$60.8 million (17.0%) followed by general cargo with \$52.1 million (14.6%) and specialized general cargo at \$51.9 million (14.5%). The South Atlantic region led total M&R expenditures with \$110.9 million (30.9%) followed by the South Pacific region at \$99.2 million (27.7%) and the Gulf region at \$72.1 million (20.1%).

Within the infrastructure segment, the South Pacific region accounted for \$74.5 million (62.6%) of these expenditures followed by the North Atlantic with 21.6 percent. Passenger investment was focused almost entirely in the South Atlantic region with \$58.7 million (96.5%). The South Atlantic and South Pacific led the specialized general cargo improvements with \$22.1 million (42.6%) and \$16.4 million (31.6%), respectively. The Gulf region accounted for 62.5 percent of the dry bulk improvements with South Pacific capturing 93.2 percent of the liquid bulk investments. General cargo expenditures were centered in the Gulf region with \$35.2 million (67.6%). North Atlantic region captured 60.1 percent of the dredging activity.

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## Capital Expenditures - Comparison of Annual Expenditures 1988 - 1999

Table 6 provides a comparative summary of the relative expenditures by category type for the period 1988 through 1999. Since 1992<sup>2</sup>, the overall expenditure pattern and trends have remained relatively constant. Total general cargo expenditures (general cargo and specialized general cargo) fluctuated in a narrow range accounting for over half of the total industry expenditures. In 1999, these expenditures rose above 50 percent after dropping below that level for the first time in 1998. Specialized general cargo expenditures increased from 35.8 percent in 1998 to 39.2 percent in 1999. General cargo expenditures were virtually unchanged from 1998. If you examine the 1999 expenditures related solely to the five cargo categories, general cargo and specialized general cargo account for nearly 80 percent of these expenditures with specialized general cargo representing over 60 percent. This reflects the public port industry's focus on specialized general cargo and general cargo business.

Infrastructure investments continued as the second largest expenditure category. The 1999 investment level of 17.4 percent was slightly below 20 percent average for the past five years. Dredging expenditures remained near historical levels at 9.9 percent. Total bulk investments remained unchanged from 1998 at 6.6 percent with the emphasis on dry bulk expenditures. Passenger expenditures, which have declined steadily from 1992, more than tripled going from 1.9 percent in 1998 to 6.4 percent 1999.

Given the recent record and near-record levels of investment, the U.S. public port industry is continuing its efforts to provide modern and efficient terminal facilities as well as investing in the necessary landside and waterside infrastructure.

**Table 6**  
**Comparison of Annual Expenditures by Type of Facility for 1988 - 1999**

Year	Type of Expenditure
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<sup>2</sup> As noted in previous reports, the additional detail contained in the surveys beginning in 1992 makes it difficult to determine the significance of the relative shift in general cargo and specialized general cargo expenditures without knowing how the infrastructure, dredging, and "other" expenditures were allocated in prior surveys.

	General Cargo			Bulk			Passenger	Other	Infrastructure			Dredging	Total Expenditures <sup>3</sup> (000)
	General Cargo	Specialized	Total	Dry	Liquid	Total			On-Term.	Off-Term.	Total		
1999	11.5%	39.2%	50.7%	5.2%	1.4%	6.6%	6.4%	9.0%	8.8%	8.6%	17.4%	9.9%	\$1,115,680
1998	10.9%	35.8%	46.7%	6.4%	0.2%	6.6%	1.9%	15.7%	7.1%	11.2%	18.3%	10.8%	\$1,414,397
1997	14.8%	35.5%	50.3%	8.3%	0.1%	8.4%	3.8%	8.5%	14.0%	6.7%	20.7%	8.3%	\$1,542,454
1996	14.7%	41.0%	55.7%	5.9%	0.5%	6.4%	2.7%	4.8%	10.7%	8.8%	19.5%	10.9%	\$1,301,152
1995	22.2%	28.8%	51.0%	3.0%	0.9%	3.9%	4.7%	8.2%	18.0%	3.1%	21.1%	11.1%	\$1,203,455
1994	22.8%	34.8%	57.6%	5.6%	0.3%	5.9%	4.7%	7.3%	15.1%	6.0%	21.1%	3.4%	\$686,620
1993	24.5%	27.6%	52.1%	4.5%	1.7%	6.2%	5.6%	11.9%	11.6%	3.6%	15.2%	9.0%	\$653,663
1992	23.9%	31.8%	55.7%	4.8%	0.2%	5.0%	7.5%	9.5%	9.0%	3.8%	12.8%	9.5%	\$671,768
1991	12.1%	48.3%	60.4%	N.A.	N.A.	7.6%	N.A.	31.9%	N.A.	N.A.	N.A.	N.A.	\$679,744
1990	13.6%	51.4%	65.0%	N.A.	N.A.	7.4%	N.A.	27.6%	N.A.	N.A.	N.A.	N.A.	\$653,174
1989	20.4%	53.2%	73.6%	N.A.	N.A.	6.2%	N.A.	20.2%	N.A.	N.A.	N.A.	N.A.	\$606,234
1988	18.8%	54.0%	72.8%	N.A.	N.A.	5.6%	N.A.	21.7%	N.A.	N.A.	N.A.	N.A.	\$499,963

3

Excludes expenditures that were not broken down by type of facility:

1995 - \$200,900,000  
1990 - \$14,919,000

1994 - \$243,000,000  
1989 - \$82,984,000

1991 - \$2,295,000  
1988 - \$184,800,000

## Capital Expenditures - Leading Port Authorities

Table 7 shows the leading U.S. public port authorities based on total 1999 capital expenditures. These 10 organizations accounted for over 70 percent of all capital expenditures by the public ports surveyed. The Port of Long Beach was the leading port with annual investments of \$210.8 million. Of the top 10 port authorities listed, three were located on the East Coast, three on the Gulf Coast and four on the West Coast.

**Table 7**  
**Leading Port Authorities for 1999**  
**By Total Capital Expenditures**  
 (Thousands of Dollars)

Rank	Port Authority	Expenditures
1	Port of Long Beach	\$210,872
2	Port of Oakland	125,243
3	Port of Los Angeles	100,820
4	Port of Miami	72,234
5	Port of Houston Authority	66,879
6	Port of Seattle	62,622
7	Jacksonville Port Authority	51,514
8	Port Authority of New York/New Jersey	44,505
9	Alabama State Docks Department	39,808
10	Tampa Port authority	38,199
	Total Top Ten Ports	\$812,696
	Total Expenditures	\$1,115,680
	Percent of Total	72.8%

## Capital Expenditures - Distribution Pattern

The distribution of the 1999 capital expenditures is shown in Table 8. The table includes the 46 ports that submitted expenditure data. The data reveal a high degree of concentration in terms of how the expenditures are distributed among the ports responding to the AAPA survey. As shown, the top three ports (6.5%) accounted for 39.2 percent of the public port industry's 1999 expenditures. The top seven ports (15.2%) represented 61.9 percent of the expenditures while the top 14 ports (30.4%) accounted for 84.6 percent. The overall distribution pattern is similar to previous reports with a slight decline in the concentration of the top three ports. These ports were primarily involved in developing major new terminal facilities, improving related infrastructure, or dredging projects or combinations of these activities.

**Table 8**  
**Distribution of 1999 Capital Expenditures**

Annual Investment (Millions of Dollars)	Public Ports		Percent of 1999 Expenditures
	No.	Pct.	
>\$100	3	6.5%	39.2%
>\$50 To <\$75	4	8.7%	22.7%
>\$25 To <\$50	7	15.2%	22.7%
>\$10 To <\$25	6	13.0%	7.7%
>\$5 To <\$10	5	10.9%	3.2%
>\$1 To <\$5	15	32.7%	4.2%
>\$0 To <\$1	6	13.0%	0.3%
<b>Total</b>	46	100.0%	100.0%

## PROPOSED CAPITAL EXPENDITURES - 2000 TO 2004

The 1999 AAPA capital expenditure survey included proposed expenditures for 2000 through 2004. Table 9 summarizes these expenditures by coastal region. During this five-year period, public port expenditures are predicted to reach a total of \$8.3 billion--a decrease of 8.6 percent compared to last year's record. Appendix A contains a list of the 52 respondents of which 46 provided information on proposed expenditures.

The South Pacific region continues as the center of future investment activity with proposed expenditures of \$2.6 billion (31.7%). Four other regions are projecting significant levels of investment--the North Atlantic at \$1.59 billion (19.1%), the South Atlantic at \$1.56 billion (18.8%), the Gulf at \$1.53 billion (18.4%), and the North Pacific at \$934.4 million (11.2%). From a coastwise perspective, the West Coast is projecting to invest over \$3.5 billion (42.9%) with East Coast expenditures at \$3.1 billion (37.9%) and the Gulf at \$1.5 billion (18.4%).

**Chart 9**  
**U.S. Port Capital Expenditures for 2000 - 2004**  
(Thousands of Dollars)

Region	Expenditures	Percent
North Atlantic	\$1,593,813	19.1%
South Atlantic	1,567,918	18.8%
Gulf	1,536,659	18.4%
South Pacific	2,652,874	31.7%
North Pacific	934,418	11.2%
Great Lakes	56,700	0.7%
AK, HI, PR, & VI *	-	-
Guam, Saipan	18,786	0.2%
<b>Total</b>	<b>\$8,361,168</b>	<b>100.0%</b>

\* Alaska, Hawaii, Puerto Rico, & Virgin Islands

## Comparison of Historical Projected Expenditures Versus Actual Expenditures

Table 10 provides information comparing the public port industry's projected expenditures against what they actually spent for those periods. The available data permit an analysis of the projections contained in the 1992 through 1994 AAPA surveys. The 1994 survey contained projections of \$4.6 billion for the period 1995 to 1999. The actual expenditures amounted to \$6.7 billion or an increase of 44.4 percent. The results of the 1992 and 1993 surveys produced similar results with actual expenditures exceeding projected expenditures.

**Table 10**  
**Comparison of Projected Capital Expenditures**  
(Thousands of Dollars)

Survey Year	5-Year Projections	Projected Expenditures	Actual Expenditures	Percent Change
1992	1993 - 1997	\$5,525,360	\$5,831,244	(+) 5.5%
1993	1994 - 1998	\$5,871,408	\$6,591,978	(+)12.3%
1994	1995 - 1999	\$4,691,257	\$6,778,038	(+)44.4%

**Capital Expenditures - by Facility Type**

Table 11 shows the proposed expenditures by type of facility. Specialized general cargo is the leading category with proposed expenditures of \$4.1 billion. Compared to last year's projections, the dollar volume was virtually unchanged and the relative share increased from 46.5 percent to 49.3 percent. The South Pacific region is expected to account for 43.4 percent of the proposed expenditures in this category with \$1.7 billion. Other regions include the North Atlantic with \$755 million (18.3%), Gulf with \$602.6 million (14.6%), the South Atlantic with \$488.4 million (11.8%) and the North Pacific with \$485.5 million (11.8%).

**Table 11**  
**U.S. Port Capital Expenditures by Type of Facility for 2000 - 2004**  
(Thousands of Dollars)

Region	Type of Facility									
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	Total
							On-Terminal	Off-Terminal		
North Atlantic	\$6,000	\$755,002	-	-	\$13,578	\$87,003	\$180,275	\$138,559	\$413,396	\$1,593,813
South Atlantic	156,055	488,402	\$58,670	\$31,986	245,148	112,904	144,024	125,101	205,628	1,567,918
Gulf	290,886	602,657	86,739	55,918	113,966	72,404	89,500	23,284	201,305	1,536,659
South Pacific	35,152	1,790,240	28,488	6,515	1,874	150,872	172,648	173,549	293,536	2,652,874
North Pacific	106,835	485,576	2,159	-	138	179,163	49,875	88,109	22,563	934,418
Great Lakes	12,800	-	14,000	6,000	12,500	800	4,600	4,000	2,000	56,700
AK,HI,PR, & VI*	-	-	-	-	-	-	-	-	-	-
Guam, Saipan	16,756	-	-	-	-	1,005	25	-	1,000	18,786
<b>Total</b>	<b>\$624,484</b>	<b>\$4,121,877</b>	<b>\$190,056</b>	<b>\$100,419</b>	<b>\$387,204</b>	<b>\$604,151</b>	<b>\$640,947</b>	<b>\$552,602</b>	<b>\$1,139,428</b>	<b>\$8,361,168</b>
<b>Percent by Facility Type</b>	<b>7.5%</b>	<b>49.3%</b>	<b>2.3%</b>	<b>1.2%</b>	<b>4.6%</b>	<b>7.2%</b>	<b>7.7%</b>	<b>6.6%</b>	<b>13.6%</b>	

\* Alaska, Hawaii, Puerto Rico, & Virgin Islands

General cargo expenditures will account for \$624.4 million (7.5%) of the proposed investments with the dollar volume down from last year's projections of \$1.1 billion. General cargo development is centered in the Gulf region with \$290.8 million (46.6%) followed by the South Atlantic with \$156 million (24.9%) and the North Pacific with \$106.8 (17.1%). Dry and liquid bulk facility expenditures represent 3.5 percent of future investments with dollar value and relative share remaining similar to last year's figures. Dry and liquid bulk expenditures continue to be centered in the Gulf region with 45.6 percent and 55.7 percent of each category. The investment in passenger facilities is expected to account for 4.6 percent of the total with the South Atlantic (63.3%) region continuing to be the focus of development.

Projected infrastructure investments are the second largest category of expenditures and are expected to total \$1.1 billion (14.3%) with on-terminal expenditures accounting for 53.7 percent. The South Pacific and North Atlantic regions are projected to capture 29.9 percent and 26.7 percent of these investments with the South Atlantic region at 22.5 percent. Table 12 provides a detailed break down of the proposed infrastructure expenditures by region.

Dredging expenditures will account for 13.6 percent of the projected total with the North Atlantic accounting for 36.3 percent of the \$1.1 billion followed by the South Pacific (25.8%), South Atlantic (18.0%), and Gulf (17.7%) regions.

**Table 12**  
**U.S. Port Capital Infrastructure Expenditures for 2000-2004**  
(Thousands of Dollars)

Region	On-Terminal				Off-Terminal				Total
	Road	Rail	Utilities	Other	Road	Rail	Utilities	Other	
North Atlantic	\$36,019	\$60,283	\$15,310	\$68,663	\$24,509	\$114,050	-	-	\$318,834
South Atlantic	51,192	65,271	20,061	7,500	86,366	11,850	\$10,295	\$16,590	269,125
Gulf	62,031	20,304	3,700	3,465	17,142	2,000	2,000	2,142	112,784
South Pacific	56,341	85,237	2,845	28,225	126,378	33,000	10,460	3,711	346,197
North Pacific	4,556	3,400	1,245	40,674	27,674	59,173	162	1,100	137,984
Great Lakes	3,600	1,000	-	-	4,000	-	-	-	8,600
Guam, Saipan	-	-	25	-	-	-	-	-	25
<b>Total</b>	<b>\$213,739</b>	<b>\$235,495</b>	<b>\$43,186</b>	<b>\$148,527</b>	<b>\$286,069</b>	<b>\$220,073</b>	<b>\$22,917</b>	<b>\$23,543</b>	<b>\$1,193,549</b>
	33.3%	36.7%	6.8%	23.2%	51.8%	39.8%	4.1%	4.3%	

\* Alaska, Hawaii, Puerto Rico, & Virgin Islands

## Capital Expenditures - Comparison of 1999 and 2000 - 2004

Table 13 provides a comparison of the relative investment levels by facility type between the actual 1999 expenditures and those proposed for 2000-2004. With the exception of specialized general cargo, the relative expenditure patterns show only modest shifts in investment levels. Specialized general cargo remains as the leading investment area with a 10.1 percent increase in the relative share for projected spending. For general cargo expenditures, there is a decline of 4.0 percent compared to current levels. Projected dredging expenditures show a modest gain of 3.7 percent. The remaining categories all show declines ranging from 0.2 percent for liquid bulk to 3.1 percent for infrastructure expenditures.

**Table 13**  
**Comparison of Current and Projected Expenditures**

<b>Expenditure Type</b>	<b>1999 Expenditures</b>	<b>2000 – 2004 Expenditures</b>	<b>Relative Change 1999 vs. 2000-2004</b>
<b>General Cargo</b>	11.5%	7.5%	-4.0%
<b>Specialized General Cargo</b>	39.2%	49.3%	10.1%
<b>Dry Bulk</b>	5.2%	2.3%	-2.9%
<b>Liquid Bulk</b>	1.4%	1.2%	-0.2%
<b>Passenger</b>	6.4%	4.6%	-1.8%
<b>Other</b>	9.0%	7.2%	-1.8%
<b>Infrastructure</b>	17.4%	14.3%	-3.1%
<b>Dredging</b>	9.9%	13.6%	3.7%
<b>Total</b>	100.0%	100.0%	

## Capital Expenditures - Leading Port Authorities

Table 14 lists the leading U.S. port authorities based on the projected capital expenditures for the 2000-2004 period. These ten ports account for \$6.3 billion (75.6%) of the proposed \$8.3 billion in capital expenditures. Of the top 10 port authorities listed, five were located on the West Coast, four on the East Coast, and one on the Gulf Coast.

**Table 14**  
**Leading Port Authorities for 2000 - 2004**  
**By Total Capital Expenditures**  
 (Thousands of Dollars)

Rank	Port Authority	Expenditures
1	Port Authority of New York/New Jersey	\$1,536,924
2	Port of Long Beach	943,965
3	Port of Los Angeles	936,641
4	Port of Oakland	617,319
5	Port of Houston Authority	591,262
6	Port of Seattle	393,673
7	Port of Tacoma	333,973
8	Georgia Ports Authority	326,677
9	Port Everglades	325,282
10	Port of Miami	315,009
	Total Top Ten Ports	\$6,320,725
	Total Expenditures	\$8,361,168
	Percent of Total	75.6%

## Capital Expenditures - Distribution Pattern

Table 15 shows the distribution of the proposed 2000-2004 capital expenditures. The degree of concentration for the projected expenditures is similar in nature to the 1999 expenditures shown in Table 8. As shown, the top five ports (10.9%) accounted for 55.3 percent of the public port industry's proposed expenditures. The top ten ports (21.8%) represented 75.6 percent and the top 15 ports (32.7%) total 85.2 percent of these expenditures. The proposed investments by these ports continues to focus on developing major new marine facilities, improving infrastructure, or dredging projects or combinations of these activities.

**Table 15**  
**Distribution of 2000 - 2004 Capital Expenditures**

Annual Investment (Millions of Dollars)	Public Ports		Percent of 2000-2004 Expenditures
	No.	Pct.	
>\$1000	1	2.2%	18.4%
>\$500 to <\$1000	4	8.7%	36.9%
>\$250 to <\$500	5	10.9%	20.3%
>\$100 to <\$250	5	10.9%	9.6%
>\$50 to <\$100	10	21.7%	9.7%
>\$25 to <\$50	7	15.2%	2.9%
>\$10 to <\$25	11	23.9%	2.1%
>\$1 to <\$10	2	4.3%	0.1%
>\$0 to <\$1	1	2.2%	-
<b>Total</b>	<b>46</b>	<b>100.0%</b>	<b>100.0%</b>

## METHODS OF FINANCING CAPITAL EXPENDITURES

The 1999 AAPA expenditure survey also included information on the methods used by the U.S. public port industry to finance its capital expenditure programs. The survey utilized the following six funding categories to classify the financing sources: port revenues, general obligation bonds (GO bonds), revenue bonds, loans, grants, and other. The "other" funding category includes all financing sources that were not described above, such as state transportation trust funds, state and local appropriations, taxes (property, sales), and lease revenue.

This section describes the financing methods used to fund the 1999 expenditures and the proposed methods for the projected 2000-2004 expenditures. Table 16 provides a basis for comparing the changes in the primary financing methods used by the public port industry. The table highlights the shift in financing methods that occurred over the last 26 years. Financing methods shifted significantly between the 1970s and the 1980s. There was a sharp increase in the use of port revenues and sharp decrease in the use of GO bonds. During this period, the relative importance of revenue bonds and "all other" remained approximately the same.

**Table 16**  
**Comparison of Financing Methods for 1973 - 1999**  
(Thousands of Dollars)

Financing Method	1973-1978 Survey	1979-1989 Survey	1990-1999 Surveys
	Percent	Percent	Percent
Port Revenues	26.7%	47.7%	37.9%
GO Bonds	30.6%	14.8%	9.6%
Revenue Bonds	29.1%	27.0%	31.2%
All Other	13.6%	10.5%	21.3%
<b>Total</b>	100.0%	100.0%	100.0%
<b>Total Expenditures<sup>4</sup></b>	\$876,326	\$3,992,897	\$9,800,103

During the 1980s and 1990s, port revenues were the leading financing method, although their relative share declined. Throughout the 1990s, the use of GO bonds has continued to decline. Revenue bond financing remained the second leading method with a slight increase in use during the 1990s. The combined share of port revenues and revenue bonds now accounts for nearly 70 percent of current financing sources. "All other" sources increased as a funding source in the 1990s. These funding methods are desirable from a port's perspective, because, in addition to loans, they include grants, state trust funds, appropriations, and tax revenues. However, these sources are generally limited in amount and availability.

<sup>4</sup> Excludes expenditures for which there was no information on funding source.  
1990/1999 - \$583,118,000 1979/1989 - \$1,643,175,000

## Funding Sources - 1999

Table 17 provides a comparative summary of financing methods used during the 1995-1999 period. By comparing the annual percentages shown for the various funding types in Table 17 with the historical averages in Table 16, one can see the variable nature of port expenditure financing.

In 1999, port revenues replaced revenue bonds as the principal funding source accounting for \$472.9 million or 44.4 percent of the public port financing. The relative share increased sharply from 33.8 percent in 1998 with the dollar volume rising by 3.4 percent. Revenue bonds were the second leading funding source with 21.4 percent after being the primary source from 1996 through 1998. Compared to 1998, both dollar volume and relative share declined by nearly half. The relative use of GO bonds remained largely unchanged from 1998 with slight increase in relative share and modest decline in dollar volume. As a group, the use of loans, grants, and "other" rose from 18.7 percent in 1998 to 26.4 percent in 1999. Within this group, loans and grants posted increases, while "other" decreased from 7.2 percent to 5.8 percent.

**Table 17**  
**U.S. Port Capital Expenditures by Type of Financing Method for 1995 - 1999<sup>5</sup>**  
(Thousands of Dollars)

Method	1995		1996		1997		1998		1999	
	Amount	Percent								
Port Revenues	\$621,703	45.6%	\$392,408	31.7%	\$449,862	30.4%	\$457,565	33.8%	\$472,978	44.4%
GO Bonds	115,859	8.5%	116,508	9.4%	147,643	10.0%	89,825	6.6%	82,879	7.8%
Revenue Bonds	366,701	26.9%	529,015	42.6%	696,090	47.1%	554,486	40.9%	228,187	21.4%
Loans	12,077	0.9%	13,734	1.1%	6,203	0.4%	15,435	1.1%	70,207	6.6%
Grants	41,078	3.0%	31,383	2.5%	120,376	8.1%	140,506	10.4%	149,665	14.0%
Other	205,369	15.1%	157,485	12.7%	58,012	3.9%	97,175	7.2%	62,245	5.8%
<b>Total</b>	<b>\$1,362,787</b>	<b>100.0%</b>	<b>\$1,240,533</b>	<b>100.0%</b>	<b>\$1,478,186</b>	<b>100.0%</b>	<b>\$1,354,992</b>	<b>100.0%</b>	<b>\$1,066,161</b>	<b>100.0%</b>

Table 18 examines the distribution of 1999 funding sources by coastal region. Port revenues were the primary financing method in four regions with loans and "other" leading in the remaining two regions.

The South Pacific region continued as the principal user of port revenues with \$264.7 million (56.0%) followed by the Gulf region with 18 percent and the North Pacific region with 14.3 percent. The Gulf region was the primary user of GO bonds with \$72.7 million (87.8%).

The South Pacific region used the majority of revenue bonds with \$132.1 million (57.9%) followed by the South Atlantic region with \$52.1 million (22.9%). The South Atlantic region accounted for virtually all the \$70.2 million in commercial loan financing. Three regions were the primary grant beneficiaries -- the South Atlantic with \$54.7 million (36.6%), the Gulf with \$48.6 million (32.5%), and

<sup>5</sup>

Excludes expenditures for which there was no information on funding source: 1999 - \$49,519,000 1998 - \$59,405,000  
1997 - \$64,268,000 1996 - \$60,619,000 1995 - \$41,568,000 1994 - \$53,185,000

the South Pacific with \$44.6 million (29.9%). The Gulf and North Pacific regions accounted for two-thirds of the "other" funding sources--\$21.2 million (34.1%) and \$20.1 million (32.4%).

**Table 18**  
**U.S. Port Capital Expenditures by Type of Financing Method for 1999<sup>6</sup>**  
 (Thousands of Dollars)

Region	Facility Expenditures by Financing Method												
	Port Revenues	Pct.	GO Bonds	Pct.	Revenue Bonds	Pct.	Loans	Pct.	Grants	Pct.	Other	Pct.	Total
North Atlantic	\$948	0.2%	-	-	-	-	-	-	\$794	0.5%	\$133	0.2%	\$1,875
South Atlantic	53,437	11.3%	\$10,109	12.2%	\$52,163	22.9%	\$70,183	100.0%	54,774	36.6%	4,968	8.0%	245,634
Gulf	85,131	18.0%	72,770	87.8%	37,107	16.3%	24	0.0%	48,641	32.5%	21,214	34.1%	264,887
South Pacific	264,708	56.0%	-	-	132,182	57.9%	-	-	44,678	29.9%	13,046	21.0%	454,614
North Pacific	67,791	14.3%	-	-	6,735	3.0%	-	-	116	0.1%	20,184	32.4%	94,826
Great Lakes	963	0.2%	-	-	-	-	-	-	662	0.4%	2,700	4.3%	4,325
<b>Total</b>	<b>\$472,978</b>	<b>100.0%</b>	<b>\$82,879</b>	<b>100.0%</b>	<b>\$228,187</b>	<b>100.0%</b>	<b>\$70,207</b>	<b>100.0%</b>	<b>\$149,665</b>	<b>100.0%</b>	<b>\$62,245</b>	<b>100.0%</b>	<b>\$1,066,161</b>
<b>Percent by Funding Source</b>	<b>44.4%</b>		<b>7.8%</b>		<b>21.4%</b>		<b>6.6%</b>		<b>14.0%</b>		<b>5.8%</b>		

\* Alaska, Hawaii, Puerto Rico, & Virgin Islands

### Funding Sources - 2000 to 2004

Table 19 shows the anticipated funding sources for the U.S. public port industry's proposed 2000-2004 capital expenditure program. Port revenues and revenue bonds remain as the principal funding sources with projected use accounting for nearly 70 percent of the overall funding. Port revenues are the primary source of funding with 41.9 percent followed by revenue bonds with 28.4 percent.

Port revenues are projected to be the leading funding source in five coastal regions with revenue bonds and grants leading in the two remaining regions.

**Table 19**

<sup>6</sup> Excludes expenditures of \$49,519,000 for which there was no information on funding source.

**U.S. Port Capital Expenditures by Type of Financing Method for 2000 - 2004<sup>7</sup>**  
(Thousands of Dollars)

Region	Facility Expenditures by Financing Method												Total
	Port Revenues	Pct.	GO Bonds	Pct.	Revenue Bonds	Pct.	Loans	Pct.	Grants	Pct.	Other	Pct.	
North Atlantic	\$4,762	0.2%	-	-	-	-	-	-	\$433	0.1%	-	-	\$5,195
South Atlantic	677,682	24.4%	\$228,221	25.8%	\$137,212	7.3%	\$36,000	65.3%	324,652	52.7%	\$164,151	39.7%	1,567,918
Gulf	526,364	19.0%	490,559	55.4%	189,502	10.1%	-	-	133,279	21.6%	153,513	37.2%	1,493,217
South Pacific	1,172,502	42.3%	-	-	1,222,123	64.9%	19,139	34.7%	131,650	21.4%	18,022	4.4%	2,563,436
North Pacific	387,355	14.0%	167,465	18.9%	319,665	17.0%	-	-	-	-	58,365	14.1%	932,850
Great Lakes	4,650	0.2%	-	-	15,400	0.8%	-	-	17,700	2.9%	18,950	4.6%	56,700
Guam, Saipan	-	-	-	-	-	-	-	-	8,000	1.3%	-	-	8,000
<b>Total</b>	<b>\$2,773,315</b>	<b>100.0%</b>	<b>\$886,245</b>	<b>100.0%</b>	<b>\$1,883,902</b>	<b>100.0%</b>	<b>\$55,139</b>	<b>100.0%</b>	<b>\$615,714</b>	<b>100.0%</b>	<b>\$413,001</b>	<b>100.0%</b>	<b>\$6,627,316</b>
<b>Percent by Funding Source</b>	<b>41.9%</b>		<b>13.4%</b>		<b>28.4%</b>		<b>0.8%</b>		<b>9.3%</b>		<b>6.2%</b>		

\* Alaska, Hawaii, Puerto Rico, & Virgin Islands

The South Pacific is the primary user of port revenues with \$1.2 billion (42.3%) followed by the South Atlantic region with \$677.6 million (24.4%). The majority of the GO bond financing remains centered in the Gulf region with \$490.5 million (55.4%) followed by the South Atlantic with \$228.2 million (25.8%). The South Pacific accounts for nearly two-thirds of the proposed revenue bond funding with \$1.2 billion followed by the North Pacific with \$319.6 million (17.0%).

The South Atlantic region continues as the principal user of loans with \$36 million (65.3%). The South Atlantic region is also the projected to lead in the use of grants with \$324.6 million (52.7%) followed by the Gulf region with \$133.2 million (21.6%) and the South Pacific with \$131.6 million (21.4%). Two regions account for the majority of "other" funding—the South Atlantic with \$164.1 million (39.7%) and the Gulf with \$153.5 million (37.2%).

<sup>7</sup> Excludes expenditures of \$1,733,852,000 for which there was no information on funding source.

## Funding Sources - Comparison of 1999 and 2000 - 2004

In Table 20, the funding sources used to finance the port industry's 1999 expenditure program are compared with those projected for 2000-2004. Overall, the financing patterns show no significant changes. Port revenues and revenue bonds continue as the primary funding sources for both periods with port revenues as the leading financing method for both. Their combined share increased slightly from 69.1 percent to 70.3 percent. The projected increase in the use of port revenues is almost offset by the decline in revenue bonds. The use of GO bonds is anticipated to increase by 3.8 percent. Loans, grants and "other" are each projected to fluctuate in a narrow range of (+/-) four percentage points.

**Table 20**  
**Comparison of Current and Projected Funding Sources**

<b>Financing Method</b>	<b>1999 Expenditures</b>	<b>2000 - 2004 Expenditures</b>	<b>Relative Change 1999 vs. 2000-2004</b>
<b>Port Revenues</b>	37.9%	41.9%	4.0%
<b>GO Bonds</b>	9.6%	13.4%	3.8%
<b>Revenue Bonds</b>	31.2%	28.4%	-2.8%
<b>Loans</b>	4.4%	0.8%	-3.6%
<b>Grants</b>	6.5%	9.3%	2.8%
<b>Other</b>	10.4%	6.2%	-4.2%
<b>Total</b>	100.0%	100.0%	

## Appendix A - 2000 AAPA Capital Expenditure Survey Respondents

Respondent	1999 Survey	2000-2004 Survey
<b>North Atlantic</b>		
Massachusetts Port Authority	X	X
The Port Authority of New York & New Jersey	X	X
Philadelphia Regional Port Authority	X	-
Port of Richmond (VA)	X	X
South Jersey Port Corporation	-	-
<b>South Atlantic</b>		
Canaveral Port Authority	X	X
Georgia Ports Authority	X	X
Jacksonville Port Authority	X	X
Port of Miami	X	X
North Carolina State Ports Authority	X	X
Port Everglades Port Authority	X	X
Port of Palm Beach	X	X
Virginai Port Authority	X	X
<b>Gulf</b>		
Alabama State Docks Department	X	X
Greater Baton Rouge Port Commission	X	X
Lake Charles Harbor and Terminal District	X	X
Port of Beaumont	X	X
Port of Corpus Christi Authority	X	X
Port of Freeport	X	X
Port of Galveston	X	X
Greater Lafourche Port Commission	X	X
Mississippi State Port Authority at Gulfport	X	X
Port of Houston Authority	X	X
Port Manatee	X	X
Port of New Orleans	X	X
Port of Orange	X	X
Port of Pensacola	X	X
Port of Port Arthur	X	-
Port of South Louisiana	X	X
Tampa Port Authority	X	X
St. Bernard Port, Harbor & Terminal District	X	X
<b>South Pacific</b>		
Port of Hueneme	X	X
Humboldt Bay Harbor District	-	-
Port of Long Beach	X	X
Port of Los Angeles	X	X
Port of Oakland	X	X
Port of Redwood City	X	X
Port of Sacramento	X	X
San Diego Unified Port District	X	X
Port of Stockton	X	X

Respondent	1999 Survey	2000-2004 Survey
<b>North Pacific</b>		
Port of Bellingham	X	X
Port of Everett	X	X
Port of Portland	X	X
Port of Seattle	X	X
Port of Tacoma	X	X
Port of Vancouver	X	X
<b>Great Lakes</b>		
Detroit/Wayne County Port Authority	-	X
Port of Green Bay	-	-
Seaway Port Authority of Duluth	X	X
Toledo-Lucas County Port Authority	X	X
<b>Non-Contiguous</b>		
Port Authority of Guam	-	X
Commonwealth Port Authority of Saipan	-	-

(-) Indicates no expenditures or data not provided

